

**ABSTRACT**

A NiSi layer over silicon that is thermally stable and can form even in the presence of oxides. The method of fabricating the nickel silicide layer includes providing a substrate comprising silicon, depositing a layer of at least a 3-component metal alloy comprising nickel on a surface of the substrate, and annealing the alloy and the substrate. The annealing temperature is less than 1000 °C. The 3-component metal alloy can include Ni, Ti and Pt.